

THE FUTURE ARRIVES: GENETIC RESEARCH INITIATIVES OF NINR

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It has been said that the future often arrives before we are finished with the present. To some, the sequencing of the 46 chromosome strands of the human genome threatens to catapult us into the future before we are ready. However, the revolution that characterizes findings from genetic research allows us to positively explore the strengths and weaknesses of our hereditary endowment. There are abundant research opportunities available to us that can move the profession forward in pace with this rapidly developing science.

At NINR, we recognize that genetic research has extended the reach of biomedical science, and we are committed to exploring the benefits that this new knowledge can bring to clinical applications. Already, genetic testing is helping to determine the risks of a variety of conditions, from prenatal testing for genetic disorders to testing for susceptibility for conditions including breast or prostate cancer, cardiovascular disease, and Alzheimer's disease. As the science advances, new information will emerge to help us identify and modify risk factors and enhance self-management for all.

Given its rapid progress during the last decade, the field of genetics has generated many research opportunities. Several NINR initiatives expand educational opportunities for nurses to learn the basics of genetics and provide research opportunities for nurse scientists that deepen our knowledge and understanding of the causes, effects, and treatment of genetic disorders.

This summer, for the fourth year in a row, NINR will sponsor the Summer Genetics Institute (SGI) on the campus of the National Institutes of Health. This 8-week course will give 18 nurses, including graduate nursing students, advanced practice nurses, and nursing faculty members, the opportunity to learn about genetics research from many of the top experts in the field while participating in hands-on laboratory experiences and case study analyses.

Graduates of the course have put their training to work in creating new career options. For example, one has taken a new position as a research program coordinator for children with osteogenesis imperfecta; another has been awarded a Cancer

Research Training Fellowship from the National Cancer Institute to complete a doctoral dissertation on the psychosocial effects of bone marrow failure syndromes; and another has received a postdoctoral fellowship from NINR to study fetal alcohol syndrome. For more information, please visit "Success Stories" on the SGI Web site <http://fmp.cit.nih.gov/ninr/>

To interweave with the events at the National Institutes of Health commemorating the 50th anniversary of the discovery of the deoxyribonucleic acid double-helix structure by Watson and Crick, NINR is sponsoring a scientific symposium entitled "Linking the Double Helix with Health: Genetics in Nursing Research." This half-day program, which takes place April 13, will offer several dynamic presentations by prominent nurse scientists on the scientific and ethical issues involved in this developing field. For more information and to register for the program, please visit the NINR Web site (<http://www.nih.gov/ninr/>) and look at the News and Information link to our Conferences and Events page.

NINR research projects related to genetics already are under way. Two recently published papers have addressed genetic models of obesity and neuron survival in Down syndrome. Meanwhile, ongoing projects are exploring pharmacogenetics and hypertension, gene alleles and traumatic brain injury, neuron degeneration and aging, and genetic differences in pain management. NINR also is sponsoring postdoctoral training opportunities in genetics and health disparities in underserved populations; the effects of alcohol in newborns; gene-environment interaction and premature birth; and the ethical, legal, and social implications of human genetics and genomic research.

Although scientists have sequenced the human genome, this is not an end point limiting and confining human potential. Rather, this knowledge signifies a new and exciting beginning. The challenge for our science is to use genetic research to find ways to address gene-related issues, offering the possibility of genetic screening, preventive treatment, and improved quality of life to countless individuals at risk for otherwise life-limiting, gene-related diseases. ■